

## **REMARKS**

Upon entry of the present Amendment-B, the application includes claims 1-12, of which claims 1, 3 and 5 are independent.

### **Response to Office Action**

The above-identified Office Action has been reviewed, the references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present Amendment-B is submitted.

It is contended that by the present amendment, all bases of objection and rejection set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the objections and rejections is respectfully requested.

### **Amendments Presented**

The specification has been amended to provide express antecedent basis for the amendments to claim 1.

Claim 1 has been amended to further define a cover plate “which has a plurality of holes formed therethrough and arranged in line, said cover plate adapted to emit an amount of infrared light.” Amendments to claim 3 and 5 are based on limitations contained in claim 1. Claims 8 and 10 have been amended to depend upon claim 3 instead of claim 1.

Applicant respectfully submits that all of the above amendments are fully supported by the original disclosure, specifically FIG. 2 for the amendments to claim 1. Applicant respectfully submits that the above amendments are fully supported by the original disclosure. Applicant also respectfully submits that no new matter is introduced into the application by the above amendments, as all of the subject matter thereof was expressly or inherently disclosed by the original specification as filed.

### **Claim Objections**

**In Item 7 of the Office Action, the Examiner has objected to claims 3, 5-6 and 9-12 as being dependent upon a rejected base claim.** The Examiner stated that the claimed subject matter would be allowable if rewritten in independent form including all of the limitations of the base claim any intervening claims.

### **Applicant's Response**

Applicant has acted upon the Examiner's suggestion and has rewritten claims 3 and 5 in independent form, including all the limitations of the base claim and any intervening claims. Based on the foregoing, applicant respectfully believes that the objection to claims 3 and 5 is overcome and it is respectfully requested that such objection, and any objection/rejection relating to any claim that depends either directly or indirectly from either claim, including claims 6, 10, 11 and 12, be reconsidered and withdrawn.

In regard to claim 9, applicant has carefully considered the Examiner's objection and respectfully suggests that the objection has been overcome and the claim is now allowable in light of the amendments to base claim 1, for the reasons stated below with respect to claim 1.

Based on the foregoing, applicant respectfully believes that the objections of claims 3, 5-6 and 9-12 are overcome, and it is respectfully requested that such objections be reconsidered and withdrawn.

### **Claim Rejections – 35 USC §103**

**In Item 3 of the Office Action, the Examiner rejected claim 1 as unpatentable over Zrwin (US 5,033,015) in view of Cibula et al. (US 3,44,378, referred to in the Office Action as Ronald et al.).** The second inventor's name on the Cibula et al. reference is Ronald Schuster, which is where the applicant believes the Examiner got the name Ronald for this reference. We

will refer to this reference (US 3,44,378) herein as either Cibula et al. or Ronald et al. In his rejection of claim 1, the Examiner states that Zwirn discloses an automated system for testing an imaging sensor (abstract; Fig. 1, Item 10) that comprises a sensor system (Fig. 1, Item 5) which includes an infrared sensor (Fig 1, Item 6) and a target (Fig. 1, Item 2) that includes a black body (Fig. 1, Item 3) which is at one temperature, and a frame with a plurality of bars at a second temperature (Col. 2, Lines 55-57). The Examiner contends that in his view, it is well known that temperature is a factor that can change the emission of infrared light.

Further, the Examiner indicates that Zwirn does not expressly disclose that the "target" (i.e. cover plate) has holes arranged in line. However, he maintains that 'Ronald et al'. discloses holes arranged in a line drawn from the center of a hole to the center of a light-emitting portion (Fig. 5 and 6, Items 41 and 51 respectively; Col. 5, Lines 14-17).

#### Applicant's Response

Upon careful consideration and in light of the above amendments, applicant respectfully traverses such rejection and submits that claim 1 (as well as all claims which depend upon claim 1) are patentably distinct over the above reference, based on the following.

Cibula et al. discloses an X-ray timing apparatus, utilizing a phototiming device to control the length of exposure. The phototiming device comprises fluorescent sheets which are positioned in the path of the X-ray beam. The light generated in these fluorescent sheets is transmitted into light transmitting sheets known as paddles. Cibula et al. discloses an improvement in the light transmission from the fluorescent sheet to the paddles through a plurality of drilled, bottomed holes arranged in longitudinal and transverse rows and thus having a perimeter defined by a closed curve in the plane of a surface of the paddle (Col. 4, Lines 66-71).

The Cibula et al reference does not teach holes which are formed all of the way through the paddle (Fig. 7, Item 45). A typical hole in the apparatus of Cibula is bottomed and made from 1/64 to 1/32 inch deep in a paddle which has a thickness of ¼ inch (Col. 5, Lines 7-9). In contrast, claim 1 of the present application, as presently amended, contains a limitation that the cover plate includes a plurality of holes which are formed through the cover plate. As such, the references, whether considered individually or in combination, do not disclose every limitation of the claim, nor do they render claim 1 obvious.

Further, applicant respectfully disagrees with the Examiner's rejection, since Cibula et al. teaches away from the claimed invention, as amended herein. The Court of Appeals for the Federal Circuit has established that a prima facie case of obviousness can be rebutted if the applicant . . . can show 'that the art in any material respect taught away' from the claimed invention." *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (CAFC 1997). "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, . . . would be led in a direction divergent from the path that was taken by the applicant." *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (CAFC 1999), *In re Haruna*, 249 F.3d 1327; 58 U.S.P.Q.2D 1517 (CAFC 2001). Moreover, the U.S. Supreme Court confirmed that teaching away provides evidence of nonobviousness in the recent case of *KSR v. Teleflex*, 550 U.S. \_\_\_, 127 S. Ct. 1727 (2007).

The purpose of the Cibula et al. invention is to improve light transmission from the fluorescent sheet to the paddle (Col. 1, Lines 47-48). Once light is admitted into the paddle through the bottomed holes it is transmitted to an emitting portion of the paddle (Figs. 5 and 6, Items 41 and 51 respectively) which are located adjacent to the phototube (Fig. 3, Item 21). The phototube, which acts as a light responsive control element, receives light transmitted to it by the

light transmitting paddles (Col. 3, Lines 64-67). The external surfaces of the paddles, other than the holes and the emitting portions, are highly polished so that light is admitted only through the holes and thereafter confined between the two highly polished and reflective surfaces (Col. 5, Lines 2-5). The paddles serve as guide members which transmit a maximum of light energy from the admitting portions (i.e. the bottomed holes) to the emitting portion of the paddle (Col. 4, Lines 7-9). The purpose of the Cibula et al. invention would be substantially frustrated if the holes were to be formed all of the way through the paddle, since light would pass through the paddle, instead of entering through the holes and being transmitted to the emitting portion via the paddle.

Therefore, Cibula et al. teaches away from having holes formed through the cover plate, since the purpose of the claimed holes is to allow the difference in emission of infrared light between the cover plate and the emission source to be detectable to a sensor positioned in front of the cover plate. Hence, it would not have been obvious for one skilled in the art to combine the references to result in the claim invention.

Based on the foregoing, applicant respectfully believes that the rejection of claim 1 is overcome, and it is respectfully requested that such rejection and any rejection/objection relating to any claim which depends either directly or indirectly on claim 1 be reconsidered and withdrawn.

**In Item 4 of the Office Action, the Examiner rejected claims 2 and 8 as unpatentable over Zrwin (US 5,033,015) in view of Cibula et al. (US 3,44,378) and further in view of Nagawawa et al. ("Application of Fourier Transform Infrared Emission Spectrometry to Surface Analysis").**

In regard to claim 2, the Examiner states that Zrwin and Cibula et al. disclose all of the

claimed limitations except wherein the emission source is a metal plate and there is a heat source connected to the metal plate. However, the Examiner states that Nagasawa et al. discloses using infrared emission spectra of thin polymer layers on flat aluminum plate that is connected to a heater.

*Applicant's Response*

Applicant has carefully considered the Examiner's rejection, and respectfully disagrees with such rejection for those reasons as stated above with respect to claim 1 which are not overcome by any additional teachings of Nagasawa et al. Further, Nagasawa et al. does not relate to testing infrared cameras, which is the object of the claimed invention. Instead, Nagasawa et al. relates to analyzing a surface of a metal workpiece, and as such persons skilled in the art would not consider the proposed modification of Zrwin to be obvious.

Based on the foregoing, applicant respectfully believes that the rejection of claim 2 is overcome and it is respectfully requested that such rejection be reconsidered and withdrawn.

In regard to claim 8, the Examiner states that Zrwin and Cibula et al. disclose all of the claimed limitations except wherein the emission source is a metal plate and there is a heat source connected to the metal plate. However, the Examiner states that Nagasawa discloses using infrared emission spectra of thin polymer layers on flat aluminum plate that is connected to a heater.

*Applicant's Response*

Applicant has carefully considered the Examiner's rejection, and respectfully disagrees with such rejection due to the amendment of claim 8 to be dependent upon claim 3. The Examiner has previously stated that claim 3 would be allowable if amended to its current form.

Based on the foregoing, applicant respectfully believes that the rejection of claim 8 is

overcome and it is respectfully requested that such rejection be reconsidered and withdrawn.

**In Item 5 of the Office Action, the Examiner rejected Claim 4 under 35 USC §103(a) as unpatentable over Zwirn (US 5,033,015) in view of Ronald et al. (US 3,444,378), and further in view of Lillington et al. (US 5,902,417).** In his rejection of claim 7, the Examiner states that Zwirn and Ronald et al. disclose every limitation except the cover plate being subjected to a processing for reducing infrared reflections. However, Lillington et al. discloses an anti-reflection coating for reducing infrared reflection.

Applicant's Response

Applicant has carefully considered the Examiner's rejection, and respectfully disagrees with such rejection for those reasons as stated above with respect to claim 1 which are not overcome by any additional teachings of Lillington et al. Additional, the anti-reflective coating disclosed in Lillington et al. does not disclose a process for reducing infrared reflection on objects other than solar cells, and as such a person skilled in the art would not consider the proposed modification of Zwirn to be obvious.

Based on the foregoing, applicant respectfully believes that the rejection of claim 4 is overcome, and it is respectfully requested that such rejection be reconsidered and withdrawn.

**In Item 6 of the Office Action, the Examiner rejected claim 7 under 35 USC §103(a) as unpatentable over Zwirn (US 5,033,015) in view of Ronald et al. (US 3,444,378), and further in view of Nagasawa et al. (US 5,902,417) and Berstein et al. (US 4,780,613).** Examiner states that Zwirn and Ronald et al. disclose every limitation of claim 7 except where the emission source comprises a metal plate and a heating source and cooling source which is connected to the metal plate. However, it is Examiner's position that Nagasawa et al. discloses using infrared emission spectra of thin polymer layers on flat aluminum plate that is connected to

a heater and Bernstein et al. discloses an infrared emission source that includes cooling fins.

#### Applicant's Response

Applicant has carefully considered the Examiner's rejection, and respectfully disagrees with such rejection for those reasons as stated above with respect to claim 1. Further, applicant contends that Bernstein et al. discloses an infrared species specific emission source which are mounted inside of a housing (Fig. 4, Item 62). Bernstein et al. discloses that in order to for the temperature of the emission source to be maintained at a substantially constant level, cooling fins are mounted on the housing. Therefore, Bernstein et al. discloses cooling fins located on the emission source housing, not the emission source itself. The primary purpose of the cooling fins in the claimed invention, is to dissipate heat from the emission source. Claim 7 includes a limitation that the cooling source is connected directly to the emission source, which is not taught by Bernstein et al.

Based on the foregoing, applicant respectfully believes that the rejection of claim 7 is overcome and it is respectfully requested that such rejection be reconsidered and withdrawn

#### Conclusion

Applicant respectfully submits that all of the above amendments are fully supported by the original application. Applicant also respectfully submits that the above amendments do not introduce any new matter into the application.

Based on all of the foregoing, applicant respectfully submits that all of the objections and rejections set forth in the Office Action are overcome, and that as presently amended, all of the pending claims are believed to be allowable over all of the references of record, whether considered singly or in combination. Applicant therefore requests reconsideration and



withdrawal of the rejections and objections of record, and allowance of the pending claims.

The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

Favorable reconsideration is respectfully requested.

Respectfully submitted,



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